

CLAIMS

1. A triplate-type planar array antenna comprising:
an antenna circuit board (3) on which an antenna
5 circuit including a plurality of radiating elements (5),
which are vertically and horizontally arrayed in a
two-dimensional manner, and feedlines (6) is formed;
two pieces of dielectric substances (2a, 2b)
between which said antenna circuit board (3) is
10 sandwiched at the both sides;
a ground conductor (1) laminated on one dielectric
substance (2b); and
a slot board (4) laminated on the other dielectric
substance (2a), wherein
15 said slot board (4) has a plurality of slot openings
(7), each corresponding to said plurality of radiating
elements (5) with a linear arrangement.

2. The triplate-type planar array antenna according
20 to claim 1, wherein said plurality of slot openings (7)
are formed on said slot board (4) in series in the
longitudinal direction of said slot openings (7).

3. The triplate-type planar array antenna according
25 to claim 2, wherein a plurality of antenna circuits are
formed on said antenna circuit board (3), said plurality
of slot openings (7) are formed on said slot board (4)
in series in the longitudinal direction of said slot

openings (7), and the number of said plurality of slot openings (7) corresponds to the number of said plurality of antenna circuits.

5 4. The triplate-type planar array antenna according to claim 1, wherein a plurality of antenna circuits are formed on said antenna circuit board (3), and at least one slot opening (7) extending over at least two of said antenna circuits is formed on said slot board (4) in
10 series in the longitudinal direction of said slot openings (7).

 5. The triplate-type planar array antenna according to any one of claims 1 through 4, wherein each array
15 spacing for said plurality of slot openings (7) in a direction perpendicular to the longitudinal direction of said plurality of slot openings (7) is set at 0.85 through 0.93 times a free space wavelength corresponding to a center frequency of a frequency band in use.

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 6. The triplate-type planar array antenna according to any one of claims 1 through 5, wherein each array
spacing for said plurality of radiating elements (5)
in the longitudinal direction of said plurality of slot
25 openings (7) is set at 0.85 through 0.93 times a free space wavelength corresponding to a center frequency of a frequency band in use.